

WATER RESOURCES & WATER CONSERVATION PROGRAM STATUS

Erin Young, R.G.
Water Resources Manager
City of Flagstaff



FLAGSTAFF CITY COUNCIL
MAY 12, 2015



Tonight's Agenda: Media and Public Concerns & Comments

- Conservation
 - Not enough effort
- Water Supply Availability - Council Goal #2
 - Williams
 - Colorado River conditions
 - California water situation
 - Water Supply Available for Growth
- Resiliency and Preparedness
 - Council Goal #11 Ensure that we are as prepared as possible for extreme weather events
- Outreach – Council Goal #8
 - Transparency concerns
 - Outreach & Planning





William Shatner
@WilliamShatner



So I think I have an idea to solve the drought. We do a crowd funding for \$30 billion for a water pipeline and bring water from the wet NW

6:37 PM - 16 Apr 2015

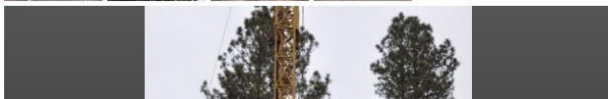
84 276

Home / News / Local

WELL

Williams digs for water solutions

Log In Tweet 1 +1 0 Share 2 Print Email



azcentral THE ARIZONA REPUBLIC
A GANNETT COMPANY

lake mead

SUBSCRIBE NOW
3 Months for the Price of 1

LOCAL SPORTS THINGS TO DO BUSINESS TRAVEL POLITICS OPINION USA TODAY MORE

What if a falling Lake Mead triggers water cuts?

The Republic | azcentral.com 5:56 p.m. MST May 2, 2015

What If: Could a lower Lake Mead mean mandatory water cuts for the rest of us?



(Photo: Mark Henle/The Republic)

f7 CONNECT 5 TWEET LINKEDIN 6 COMMENT EMAIL MORE

With Lake Mead possibly reaching a record low this June, it's past time we analyzed the ramifications. Will Arizona follow California and mandate water limits, or is our situation a little brighter than we think it is? We asked two experts what they thought:

LAST TIME: What if Phoenix created a unified ID?

AGRICULTURE WOULDN'T BE AFFECTED IN THE SHORT TERM

Kevin Rogers, president, Arizona Farm Bureau:

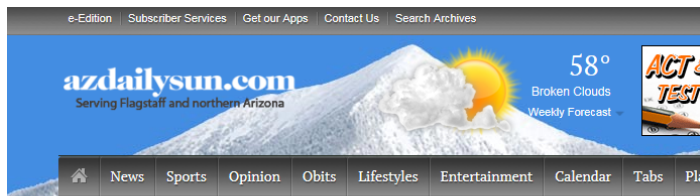
When the Secretary of Interior issues a "call" on the Colorado River, Arizona's first reductions would go to areas of non-Indian agriculture that are using Central Arizona



MORE STORIES



Biggs at event where speaker says McCain



In Depth Water cost increases hit Bellemont subdivision • Historic neighborhood shakeup • Putting a price on fire pr

Home / News / Local

Williams declares water crisis

Log In Tweet 1 +1 0 Share 9 Print Email

March 05, 2014 7:30 am • ERIC BETZ Sun Staff Reporter

(3) Comments

This year's dry winter has pushed the city of Williams to declare a water crisis. The highest level of water restrictions, level 4, went into place last week.

As of Feb. 25, residents can no longer water lawns or gardens, wash their cars or spray down driveways. The city pool and pools at hotels will have to be filled with hauled water from places like Bellemont.

Violating the restrictions subjects customers to a \$100 surcharge and fines double for each subsequent incident.

"We're asking people to curb even indoor usage as much as possible," said Williams City Manager Brandon Buchanan.

Rates 150 percent of normal will be charged for residents using more than 15,000 gallons of water a month. But that number is far above average usage, so Williams is looking at lowering the threshold required to trigger the higher rate, Buchanan said.

Williams is in trouble because — unlike the city of Flagstaff — it is largely dependent on surface water. And this winter has left much precipitation to be desired. Water from Williams' two wells is being pumped around the clock into a city reservoir.

The city manager said the crisis was a call to action to start planning for these types of events in the future.

"We've been fortunate in history where when we've needed it, the rain has come through," Buchanan said. "In the end, we have to be planning for not getting that precipitation. ... We need to plan for the worst case."



"The challenge is to get everyone to respect music again, to recognize its value," said Jay Z, whose real name is Shawn Carter. "Water is free. Music is \$6 but no one wants to pay for music. You should drink free water from the tap — it's a beautiful thing. And if you want to hear the most beautiful song, then support the artist."

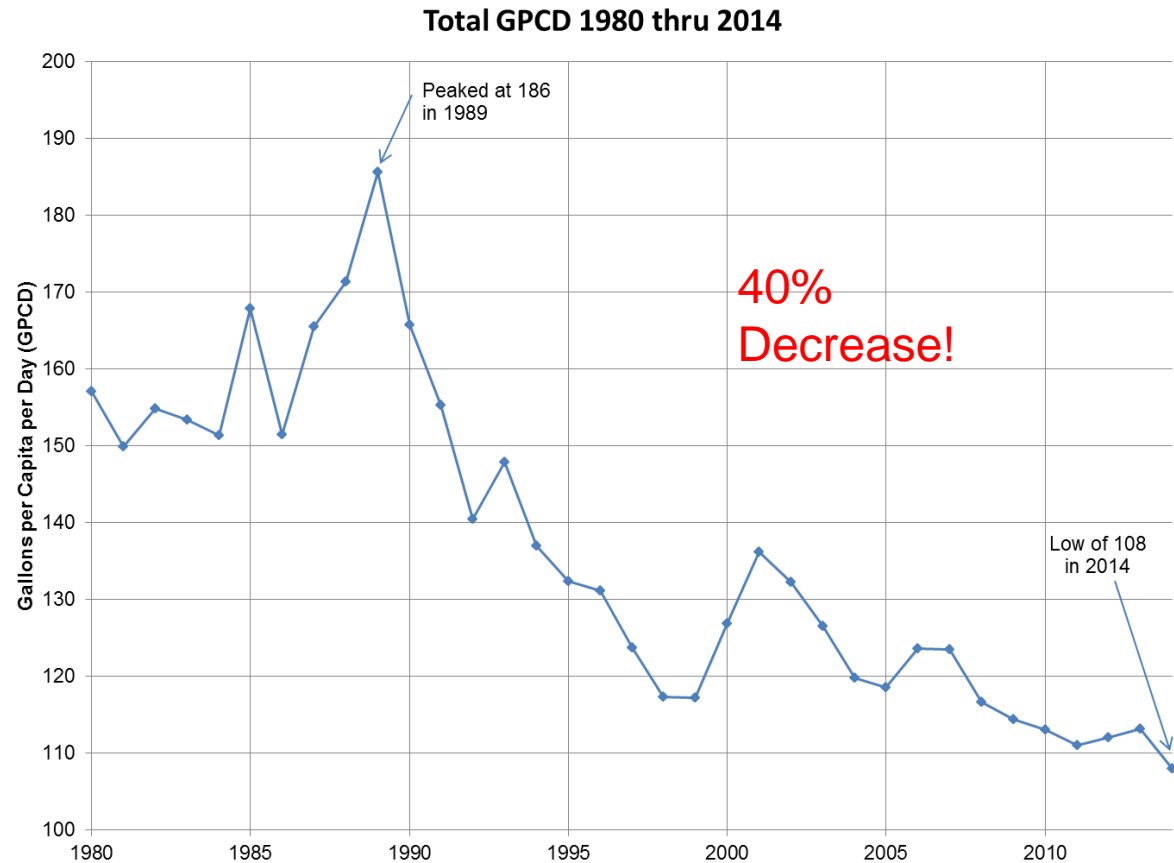
Media and Public Concerns & Comments

- Conservation
 - Not enough effort
- Water Supply Availability
 - Williams
 - Colorado River conditions
 - California water situation
 - Water Supply Available for Growth
- Resiliency and Preparedness
 - Ensure that we are as prepared as possible for extreme weather events
- Outreach
 - Transparency concerns
 - Outreach & Planning



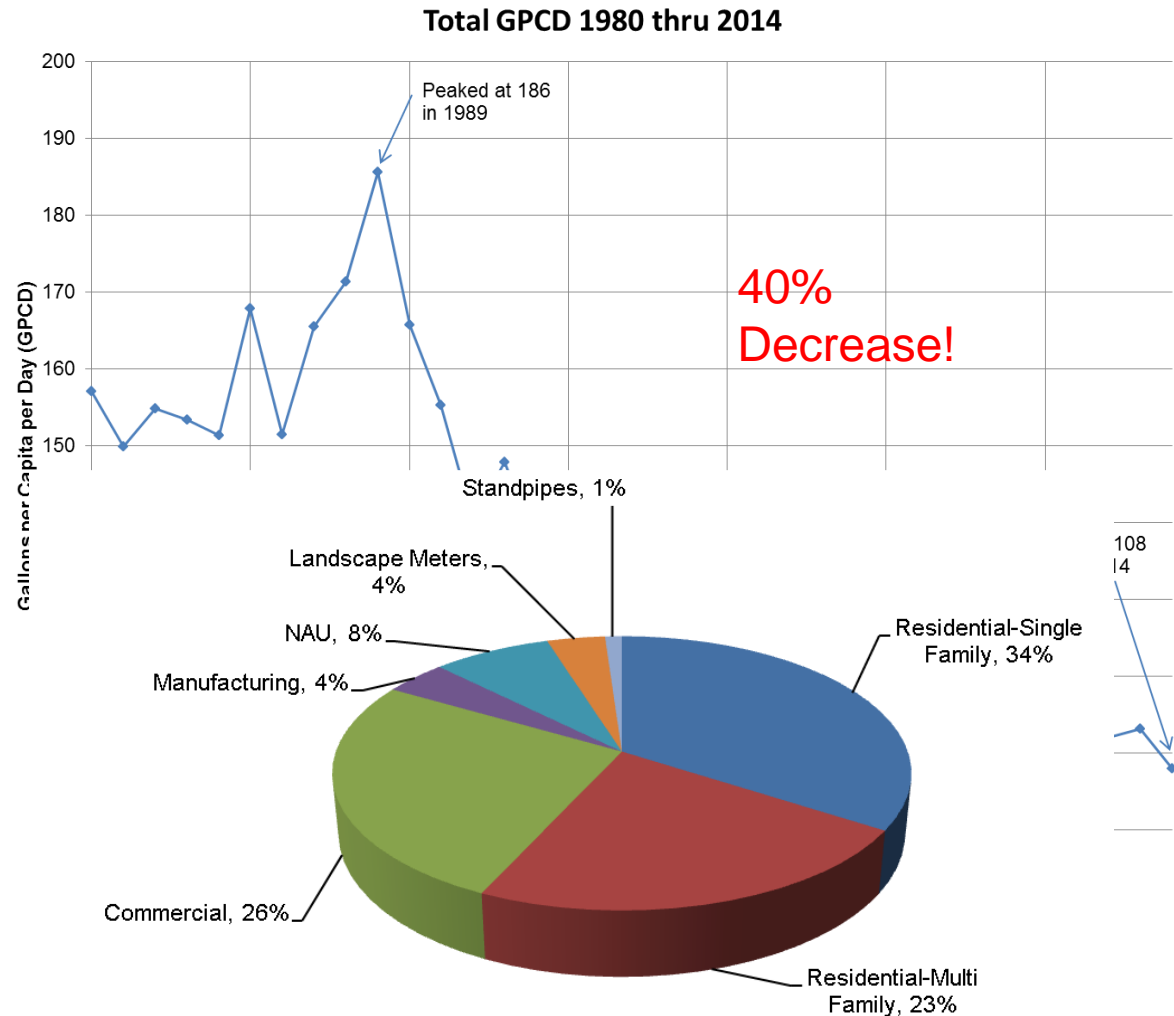
Conservation Achievements – 108 GPCD!

- Conservation ordinance adopted by Council in 1988
- *Inverted rate structure*
- *Odd/even watering days*
- *“Water cops”*
- *Public outreach & Rebates*
- *Rio plant and reclaimed water extension (1994)*
- Water System Leak Detection Study on 50% of system
- *Plumbing codes*



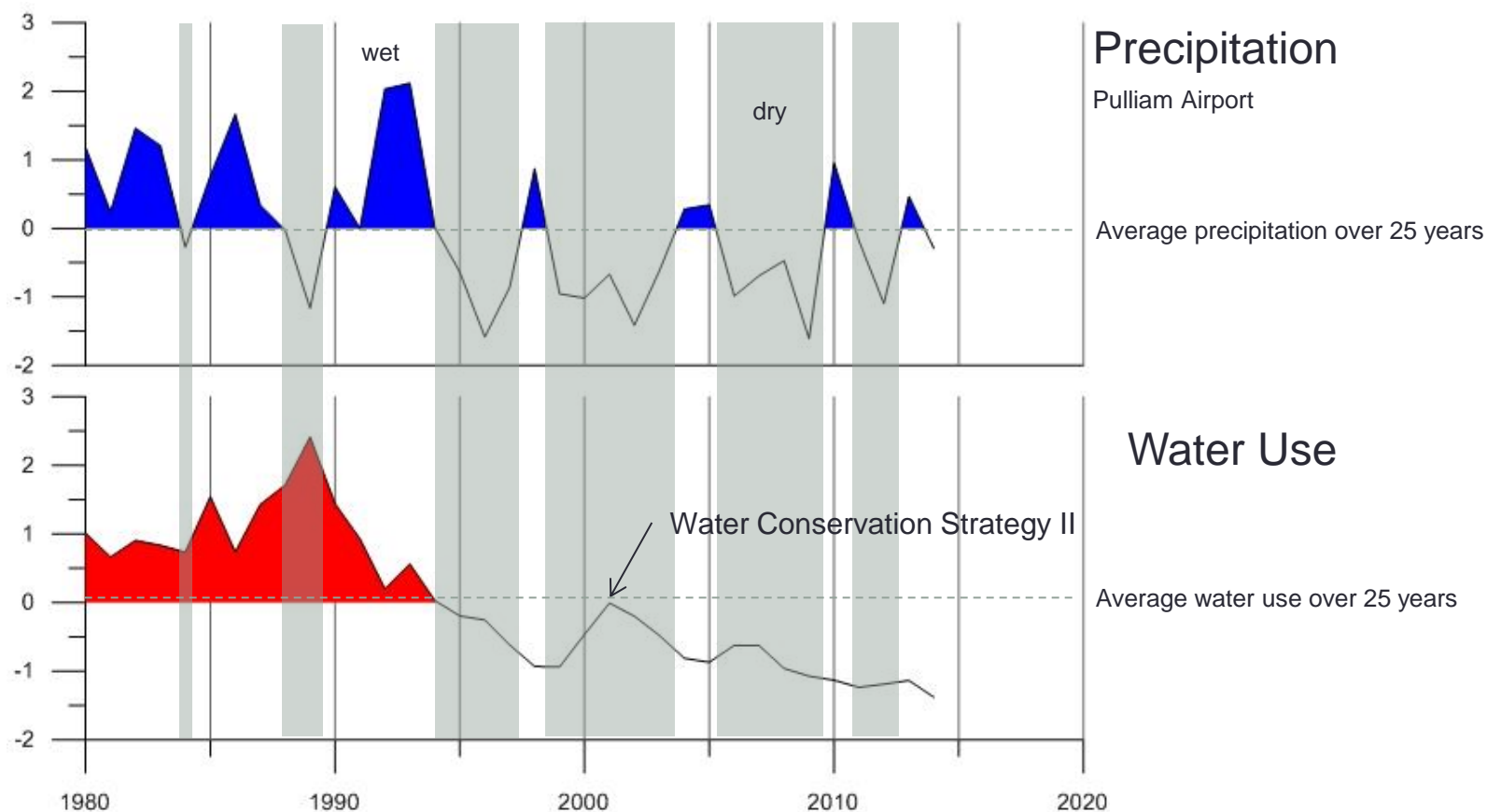
Conservation Achievements – 108 GPCD!

- Conservation ordinance adopted by Council in 1988
- *Inverted rate structure*
- *Odd/even watering days*
- *“Water cops”*
- *Public outreach & Rebates*
- *Rio plant and reclaimed water extension (1994)*
- Water System Leak Detection Study on 50% of system
- *Plumbing codes*

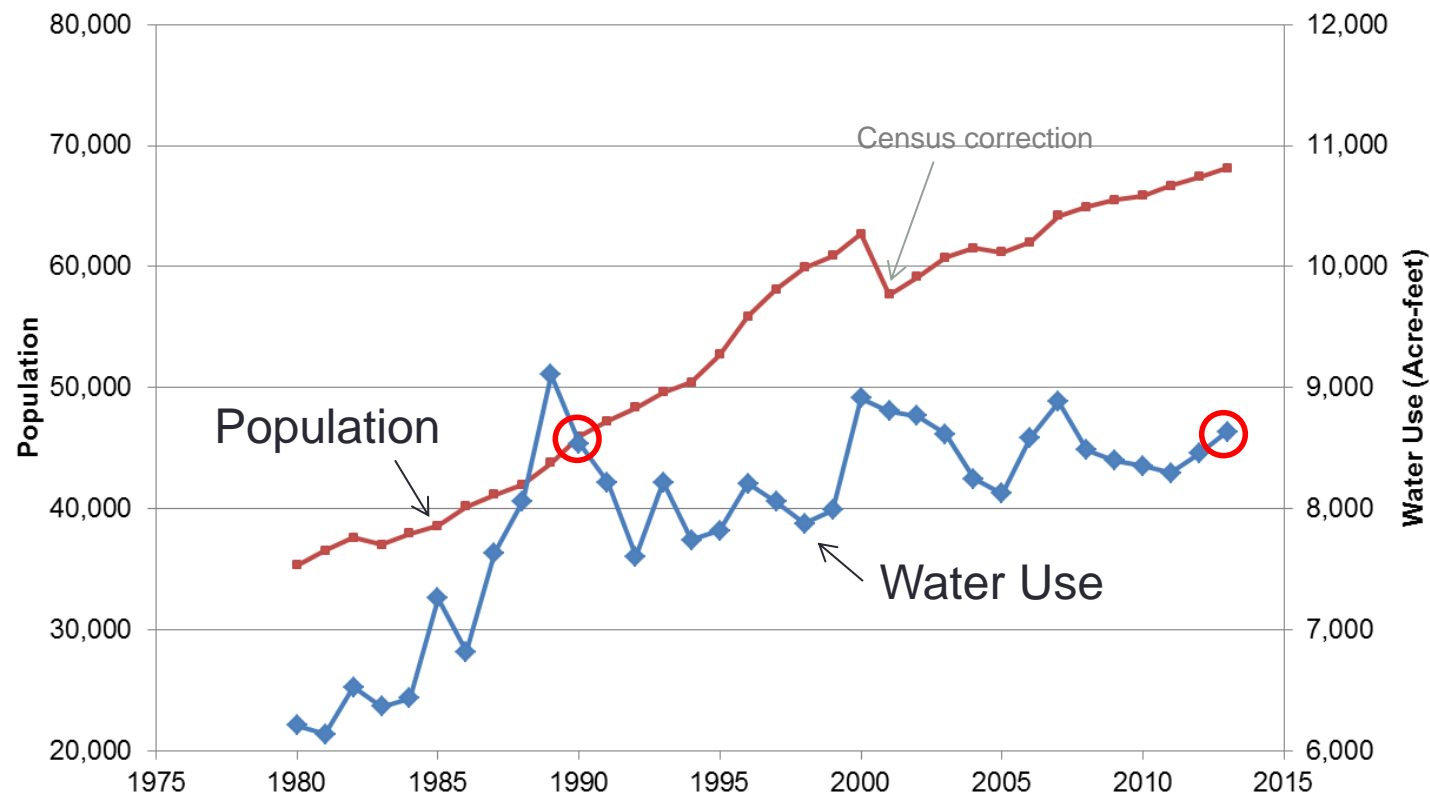


Conservation Achievements – 108 GPCD!

- Community behavior change rather than annual response

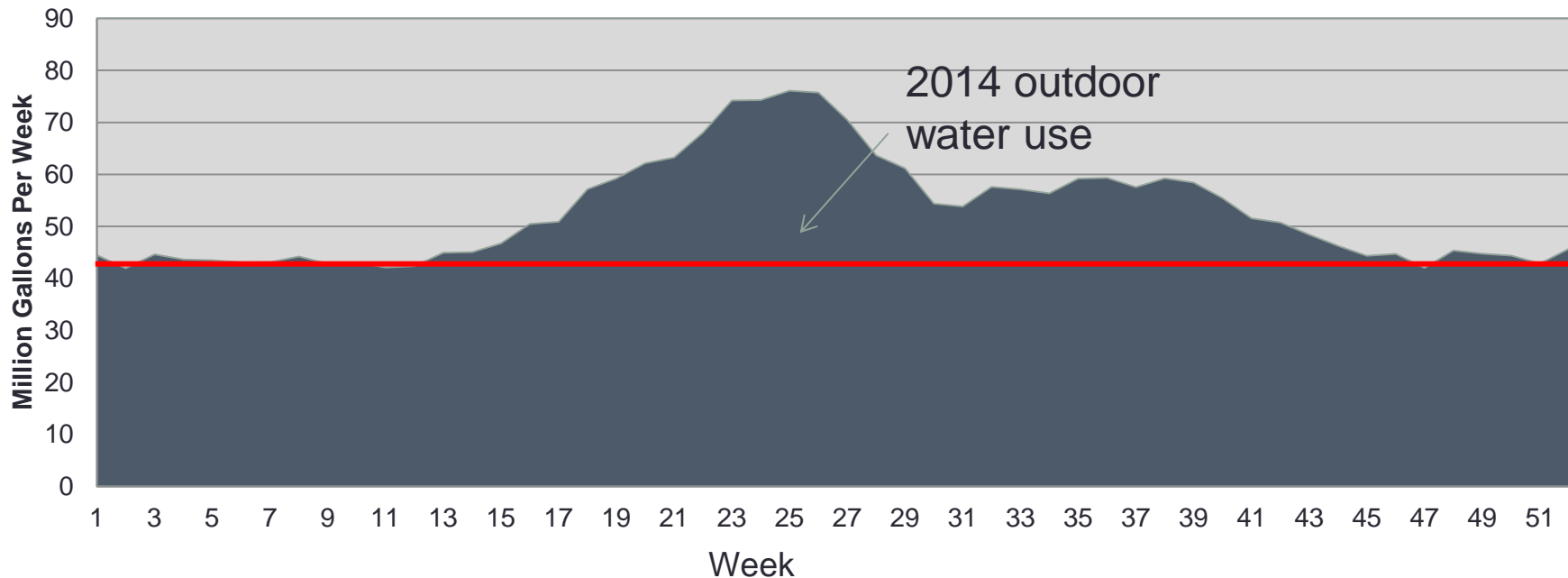


Conservation Achievements – 108 GPCD!



Over 25 years population increase of 51% & same water use!

Conservation Achievements – 108 GPCD!



Assume we cut all outdoor water use
GPCD would be reduced by 20 gpcd or an **additional 17-19%**

How low do we want to go?

Media and Public Concerns & Comments

- Conservation
 - Not enough effort – **40% and dropping!**
- Water Supply Availability
 - Williams
 - Colorado River conditions
 - California water situation
 - Council Goal #2 Water supply available for growth
- Resiliency and Preparedness
 - Council Goal #11 Ensure that we are as prepared as possible for extreme weather events
- Expanded Outreach
 - Transparency concerns
 - Council Goal #8 Outreach & Planning



Inner Basin Well House March 2015

Peak Water Production Capacity (2015)

June (Driest Month)

**AVERAGE YEAR
TOTAL CAPACITY
20.8 MGD**

**DRY YEAR
TOTAL CAPACITY
15.3 MGD**

**10-YR Actual Maximum Day
Delivered 13.5 MGD**

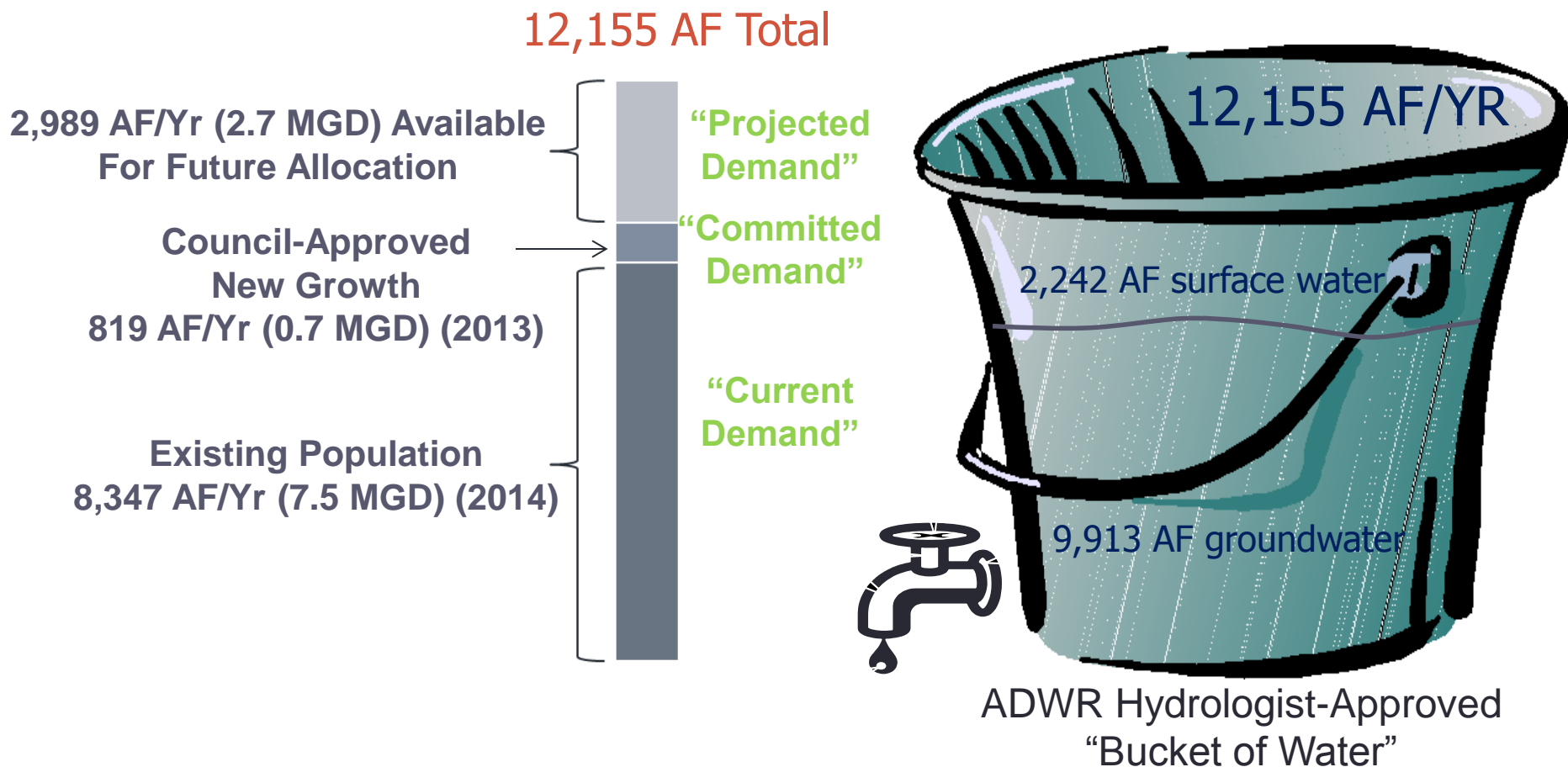
Groundwater	13.33 MGD
Woody Mountain Wells	5.24 MGD
Lake Mary Wells	3.43 MGD
Local Wells	4.66 MGD
Avg Year Surface Water	7.50 MGD
Upper Lake Mary	5.50 MGD
Inner Basin	2.00 MGD
Dry-Year Surface Water	2.00 MGD
Upper Lake Mary (17% full in May)	2.00 MGD
Inner Basin	0.00 MGD

**We Are Prepared! Council & Community Bond Approval in 2004 adding
3 new water wells**

Long-term Planning – Water Resources

- Evaluation of 100-Year “bucket of water” for long term

Not including Red Gap Ranch

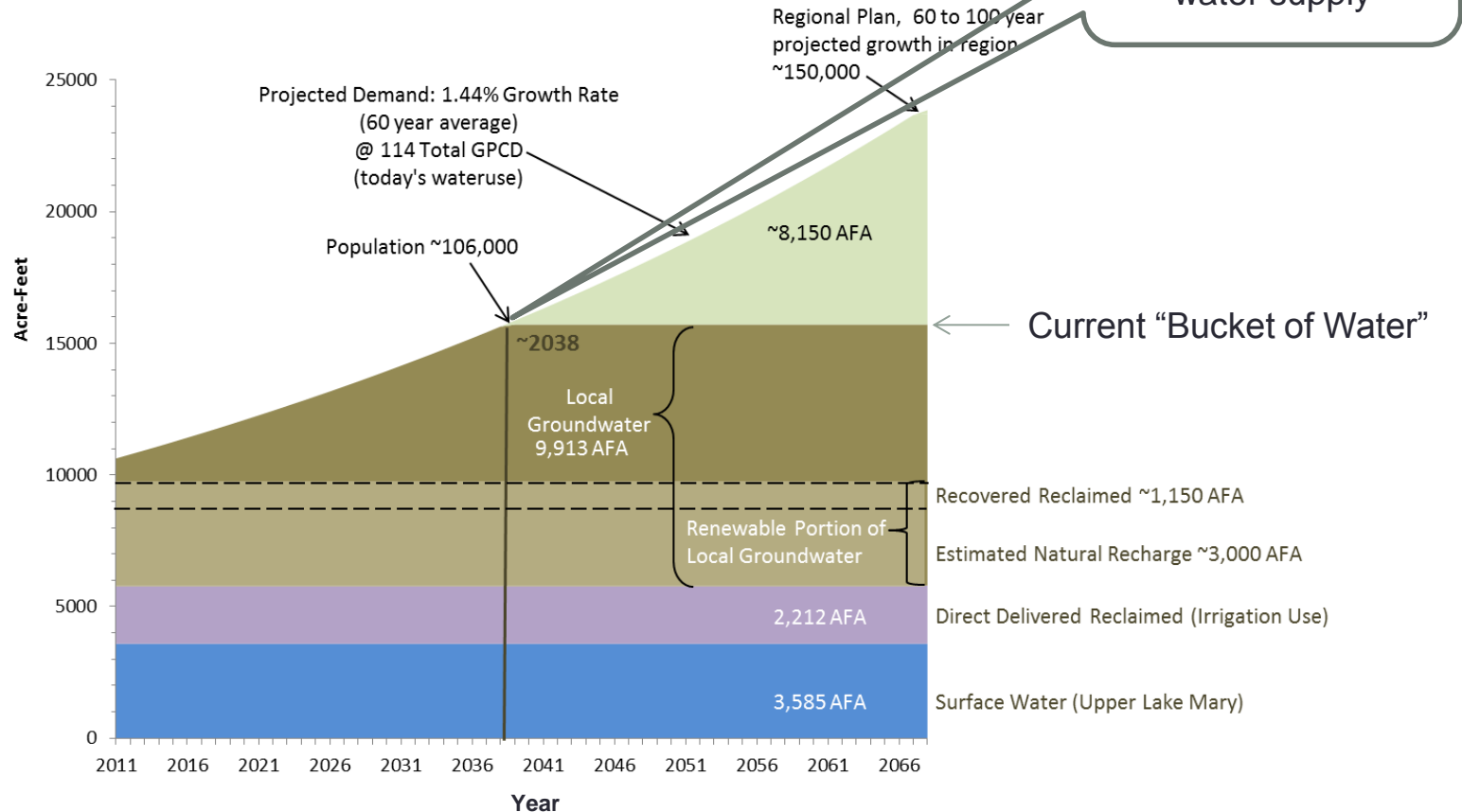


Long-term Planning-Water Resources

How Long Flagstaff Can Sustain Growth Until a New Supply is Needed?

ADWR-approved City of Flagstaff 100-Year Designation of Adequate Water Supply

(as accepted by Arizona Department of Water Resources,
supplies are in acre-feet annually [AFA])



Media and Public Concerns & Comments

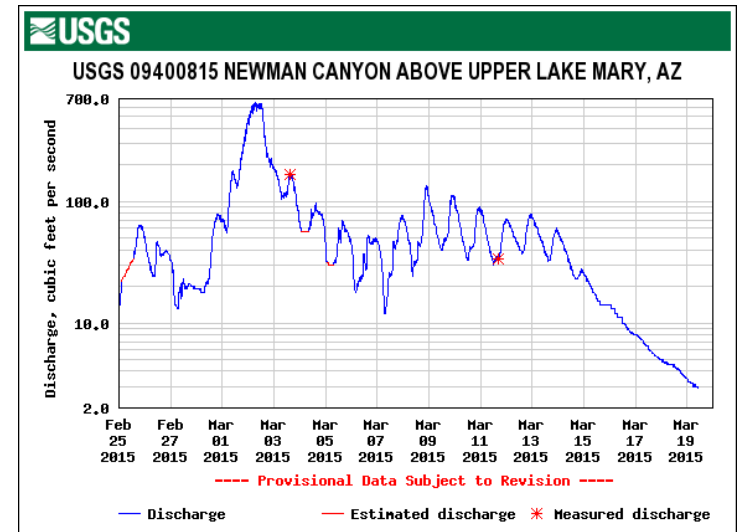
- Conservation
 - Not enough effort – 40% and dropping!
- **Water Supply Availability – Prepared Today & Looking to the Future**
 - Williams
 - Colorado River conditions
 - California water situation
 - Council Goal #2 Water Supply Available for Growth
- **Resiliency and Preparedness**
 - Council Goal #11 Ensure that we are as prepared as possible for extreme weather events
- Expanded Outreach
 - Transparency concerns
 - Council Goal #8 Outreach & Planning

Resiliency and Preparedness

- Drought scenarios and climate change
 - Water Resources Master Plan
 - Groundwater flow modeling
- “Unused” reclaimed water in winter (~3,600 AF/YR)
- Resiliency & Preparedness Plan, May 2012
- Watershed & C aquifer water supply monitoring partnerships: Flagstaff Watershed Protection Project, NAU, SRP, USGS monitoring partnerships

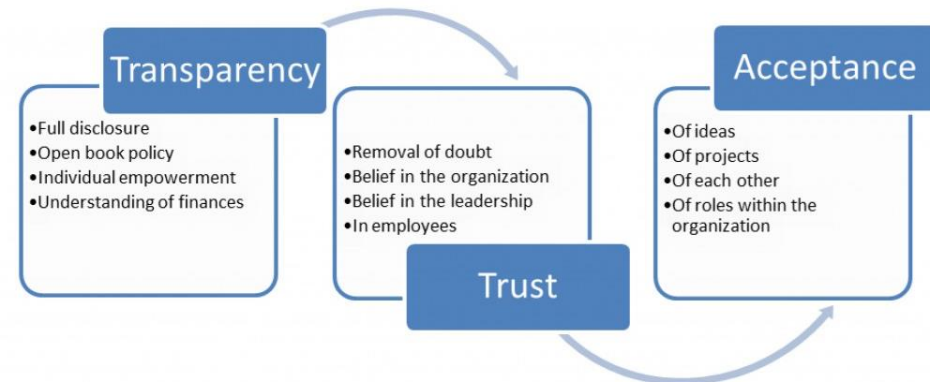


“flowtography” time-lapse photos within Upper Lake Mary watershed



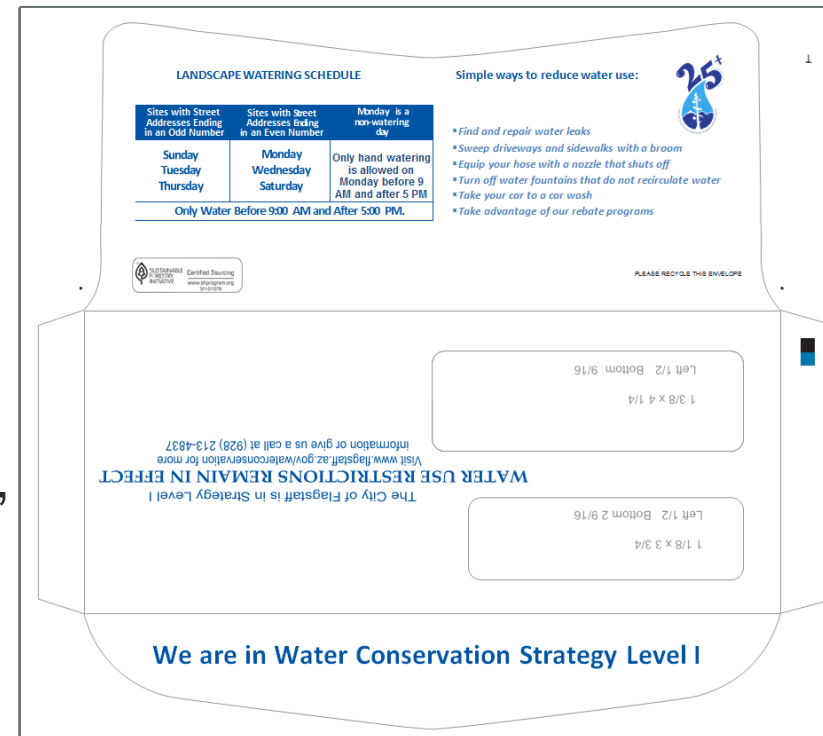
Media and Public Concerns & Comments

- Conservation
 - Not enough effort – **40% and dropping!**
- Water Supply Availability – Prepared Today & Looking to the Future
 - Williams
 - Colorado River conditions
 - California water situation
 - Council Goal #2 Water Supply Available for Growth
- **Resiliency and Preparedness – Incorporated in planning & established relationships with collaborators**
 - **Council Goal #11 Ensure that we are as prepared as possible for extreme weather events**
- Expanded Outreach
 - Transparency concerns
 - Council Goal #8 Outreach & Planning



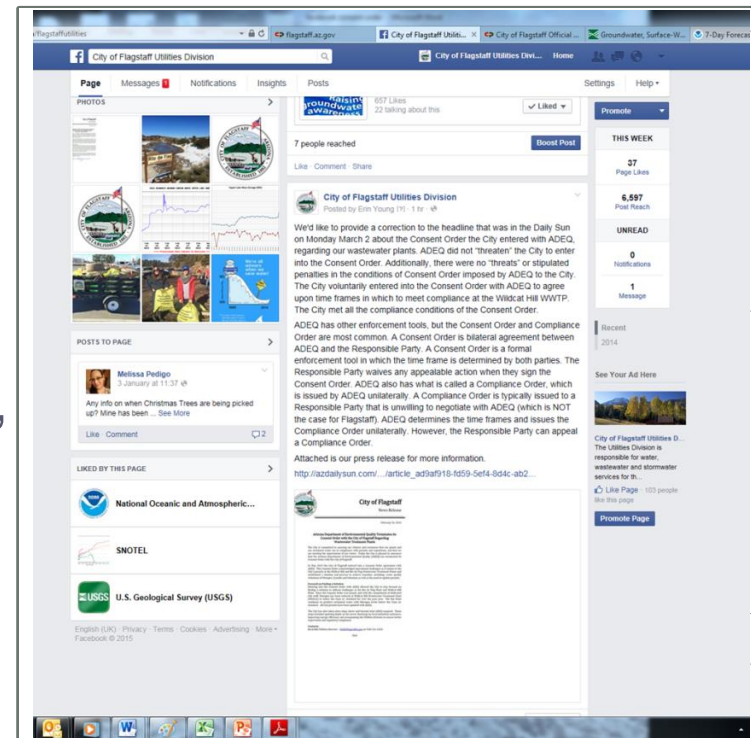
Transparency (how)

- *Nationally, the utility culture aren't the best at outreach...so, we are making strides at improving*
- Expanded outreach to assist with Transparency
 - Website
 - Billing envelopes
 - Facebook
 - Radio announcements & interviews
 - Cityscape
 - Community events & presentations
 - Developing program support on how, what & when to better communicate with our citizens



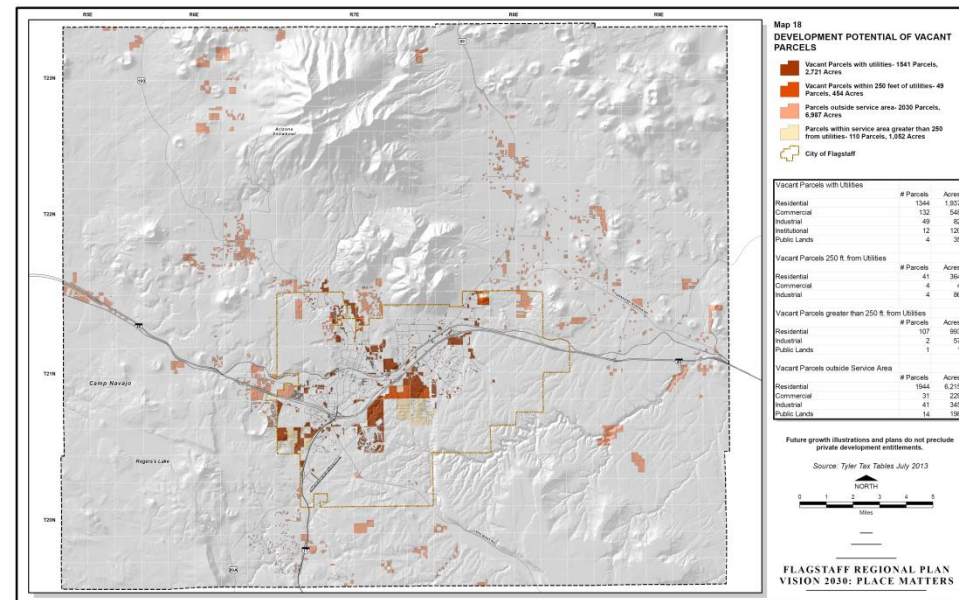
Transparency (how)

- *Nationally, the utility culture aren't the best at outreach...so, we are making strides at improving*
- Expanded outreach to assist with Transparency
 - Website
 - Billing envelopes
 - Facebook
 - Radio announcements & interviews
 - Cityscape
 - Developing program support on how, what & when to better communicate with our citizens



Outreach & Planning (what)

- Update Water Resources Master Plan (2011) with new voter-approved Regional Plan Land Uses
 - Review build-out water needs
 - Update Future Water Supply Options and Cost v. Supply Table
 - Community involvement and review
- Recently completed Water & Wastewater Infrastructure master planning efforts
- Economic value per gallon



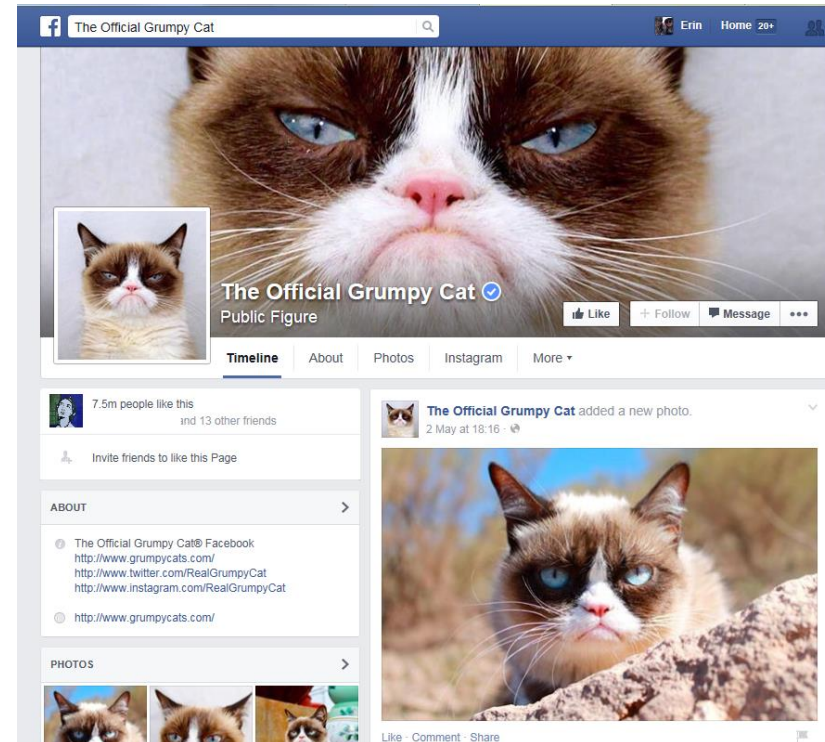
Outreach (continued)

- Conservation education and outreach
 - Rebates
 - Water Festival – 1,080 4th grade students in 2014
 - Water Conservation Enforcement Aides
 - Conserve2Enhance
 - Public Works Sustainability Program
- Regular presentations for stakeholder groups



Recap: Purpose

- Conservation
 - Continuing to promote conservation
- Water Supply Availability
 - Prepared but still work to do
 - Increased use of reclaimed water
 - Red Gap Ranch
- Resiliency and Preparedness
 - Partnering with research teams
- Expanded Outreach
 - Doing a lot with staff we have
 - Assistance from experts



Grumpy Cat 7.5 Million Likes

Recap: Purpose

- Conservation
 - Continuing to promote conservation
- Water Supply Availability
 - Prepared but still work to do
 - Increased use of reclaimed water
 - Red Gap Ranch
- Resiliency and Preparedness
 - Partnering with research teams
- Expanded Outreach
 - Doing a lot with staff we have
 - Assistance from experts

Utilities >100 Likes

The image shows two overlapping Facebook pages. The top page is for 'The Official Grumpy Cat', featuring a large profile picture of the famous grumpy cat. The bottom page is for the 'City of Flagstaff Utilities Division', which has a cover photo of a mountain landscape. The page shows a post about water awareness with a link to a LATimes article and a bubble chart titled 'Beef' illustrating water usage. The page also shows engagement metrics like '109 likes' and '7 post reach'.

The Official Grumpy Cat

City of Flagstaff Utilities Division
Government Organisation

Find New Customers
Connect with more of the people who matter to you
[Promote Page](#)

ABOUT

- The Utilities Division is responsible for water, wastewater and stormwater services for the City of Flagstaff.
- <http://www.flagstaff.az.gov/in...> [Promote Website](#)

PHOTOS

Beef
196.28 gallons of water needed to produce one source
An 8-ounce piece of steak requires 800 gallons of water — 10 times the most water for any protein. One source of beef is roughly 10 times more water intensive than chicken and consumes more than double the water of pork.

From steak to mangoes, here are some water-hogging foods
With California's drought worsening, there has been a growing focus on the amount of water needed to produce certain foods.
LATIMES.COM | BY LOS ANGELES TIMES

109 likes · 7 post reach this week

72 people reached

[Boost Post](#)

Thank You!

Questions or Comments?

Erin Young
eyoung@flagstaffaz.gov
(928) 214-2405

